UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/808,567	03/25/2004	Shoji Miura	01-583	4842

23400 7590 09/21/2006

POSZ LAW GROUP, PLC
12040 SOUTH LAKES DRIVE
SUITE 101
RESTON, VA 20191

EXAMINER	
LEWIS, MONICA	

ART UNIT	PAPER NUMBER
2822	

DATE MAILED: 09/21/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/808,567	MIURA ET AL.	
	Examiner	Art Unit	
	Monica Lewis	2822	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *27 June 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-19* is/are pending in the application.

4a) Of the above claim(s) *8-12 and 15-17* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3,5,6,18 and 19* is/are rejected.

7)☒ Claim(s) *4,7,13 and 14* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *25 March 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *6/06;8/06*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. This office action is in response to the amendment filed June 27, 2006.

Drawings

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the following must be shown or the feature(s) canceled from the claim(s): a) one of the first and second electrodes that is exposed on the control-electrode-exposing surface is overlapped with the non-insulating portion of the inward surface (See Claim 7); and b) surrounds an area of one of the first and second electrodes that is exposed on the control electrode exposing surface (See Claim 7). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will

be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-7, 13, 14, 18 and 19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is not clear what is meant by the following: a) "electrically connected with a non-insulating portion of the inward surface where the insulating layer is formed, wherein no insulating layer is formed on the non-insulating portion" (See Claims 1, 4, 7 and 13); and b) "that is exposed on the control-electrode-exposing surface is, with the non-insulating portion of the inward surface, overlapped and electrically connected using a conductive connection member" (See Claim 3). Claims 5, 6, 14, 18 and 19 depend directly or indirectly from a rejected claim and are, therefore, also rejected under 35 U.S.C. 112, second paragraph for the reasons set above.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1-3, 5, 6, 18 and 19, as far as understood, are rejected under 35 U.S.C. 102(e) as being anticipated by Teshima et al. (U.S. Publication No. 2003/0132530).

In regards to claim 1, Teshima et al. ("Teshima") discloses the following:

a) an element of a semiconductor switching element (1) that includes two of a first and second surfaces, wherein a first electrode is exposed on the first surface, a second electrode is exposed on the second surface, and a control electrode is exposed on a control-electrode-exposing surface that is one of the first and second surfaces (For Example: See Figure 3 and Paragraph 33);

b) two radiating members (5 and 6) between which the element is disposed, wherein the two radiating members are electrically connected with the first and second electrodes, respectively, wherein each of the two radiating members has an inward and outward surfaces, wherein the inward surface is closer to the element than the outward surface (For Example: See Figure 3);

c) a mold resin (9) member filling a space between the two radiating members (For Example: See Figure 3);

d) an insulating layer formed on at least one of the inward surfaces of the two radiating members (For Example: See Paragraph 48); and

e) a conductive layer (3) formed on the insulating layer and electrically connected with the control electrode and an input portion protruding from the mold resin member, wherein one of the first and second electrodes is electrically connected with a non-insulating portion of the inward surface where the insulating layer is formed, wherein no insulating layer is formed on the non-insulating portion (For Example: See Figure 3).

In regards to claim 2, Teshima discloses the following:

a) the control-electrode exposing surface of the element faces the conductive layer (For Example: See Figure 3).

In regards to claim 3, Teshima discloses the following:

a) the control electrode is, with the conductive layer, overlapped and electrically connected using a conductive connection member (4), and wherein one of the first and second electrodes that is exposed on the control-electrode-exposing surface is, with the non-insulating portion of the inward surface, overlapped and electrically connected using a conductive connection member (For Example: See Figure 3).

In regards to claim 5, Teshima discloses the following:

a) the conductive layer includes a pattern wiring formed of at least one of copper and copper alloy (For Example: See Paragraph 37).

In regards to claim 6, Teshima discloses the following:

a) insulating layer is formed of a heat resisting resin (For Example: See Paragraph 39).

In regards to claim 18, Teshima discloses the following:

a) input portion is included in the conductive layer (For Example: See Figure 3).

In regards to claim 19, Teshima discloses the following:

a) the conductive layer is formed on the insulating layer such that the insulating layer is sandwiched between the conductive layer and at least one of the inward surfaces of the two radiating members (For Example: See Figure 3).

Allowable Subject Matter

7. Claims 4, 7 and 13 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.

8. Claim 14 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Response to Arguments

9. Applicant's arguments filed 6/27/06 have been fully considered but they are not persuasive. First, Applicant argues that "the office action indicates that the Teshima et al. reference discloses a conductive layer 3 formed on the insulating layer 15. However, the coupler 3, or "conductive layer" is not formed on the insulating layer as claimed in claim 1."

Merriam-Webster defines "on" as to indicate position in close proximity with. Teshima discloses a conductive layer (3) that is on the insulating layer. The insulating layer is a resin that is coated on the surfaces of the chips and radiation plates (For Example: See Paragraph 48).

Finally, Applicant argues that "the office action indicates that the coupler 3 or insulating layer is electrically connected with the control electrode and electrically connected with an input portion from the mold resin member. However, there is nothing in Teshima et al. to show that an electrical connection exists between the coupler 3 and the control electrode 7." Teshima does disclose a conductive layer (3) formed on an insulating layer and electrically connected with the control electrode (For Example: See Figure 3, Paragraph 33, Paragraph 34 and Paragraph 48). The control (gate) electrode is located on the front surface (1a). Therefore, the electrical connection is made via the bonding/solder members (4) (For Example: See Paragraph 34).

Conclusion

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Monica Lewis whose telephone number is 571-272-1838. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Zandra Smith can be reached on 571-272-2429. The fax phone number for the organization

where this application or proceeding is assigned is 571-273-8300 for regular and after final communications.

ML

September 14, 2006